R E M A R K S

Careful review and examination of the subject application are noted and appreciated. Applicants' representative thanks Examiner Wang for the indication of allowable matter.

SUPPORT FOR THE CLAIM AMENDMENTS

Support for the amendments to the claims can be found in the drawings as originally filed, for example, on FIGS. 4 and 5, and in the specification as originally filed, for example, on page 10, lines 3-21, on page 15, line 4 through page 16, line 16, and on page 19, lines 6-15. As such, no new matter has been introduced.

IN THE DRAWINGS

Applicants' representative has reviewed a copy of the informal drawings filed with the application. FIGS. 1-4 appear to be clear and legible. Applicants' representative submits herewith a replacement sheet for FIG. 5 in light of the Examiner's statement that characters in FIG. 5 are to small to see. Applicants agree to submit formal drawings when a notice of allowance is received.

CLAIM REJECTIONS UNDER 35 U.S.C. §112

The rejection of claims 15 and 17-20 under 35 U.S.C. §112, first paragraph, as failing to comply with the enablement requirement is respectfully traversed and should be withdrawn.

The Examiner has the initial burden to establish a reasonable basis to question the enablement provided for the claimed invention (MPEP §2164.04). The conclusory statements that "With respect to claim 15, 'predetermined character is orthogonal to an encoded data and special character set' as recited has not been taught in the specification" and "The specification teaches only 'replacing one or more characters of a data stream with a predetermined character' as recited" (see page 3, lines 1-4 of the Office Action) is clearly not correct and does not adequately address the issue of why one of ordinary skill in the field of the present invention would not understand and be unable to make and use the claimed invention without undue experimentation as required by MPEP §2164.01. In particular, the Office Action fails to present any evidence or convincing line of reasoning to support the conclusion that one of ordinary skill in the field of the invention would be unable to recognize or understand the limitation "predetermined character is orthogonal to an encoded data and special character set" as being taught by the specification (see page 3, lines 1-4 of the Office Action).

Contrary to the position taken in the Office Action, a person of ordinary skill in the field of the invention would recognize the specification, as originally filed, as teaching a predetermined character is orthogonal to an encoded data and special character set. In particular, the specification states:

> The present invention may be used to propagate
> a signal indicating the detection of a
> transmission exception (e.g., a

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synchronization failure in a source data stream) to a remote location across the encoded serial data stream 206 using a block-coded character 210. **The character used may be, in one example, an invalid character that is outside the set of all valid data and valid special characters** (e.g., the C0.7 character as identified in the CY7B923/CY7B933 datasheet, Cypress Semiconductor Corp., April 5, 1999, which is hereby incorporated by reference in its entirety). However, other characters may be used to meet the design criteria of a particular implementation. The propagated signal generally does not interfere with the normal operation of the protocol. The present invention may be used in applications requiring a high-integrity data environment (e.g., banking and other financial transaction or calculation based systems). The present invention may be limited to use in interfaces where the data is not temporal in nature (e.g., video) and minor data imperfections can be recovered through use of retry or retransmission of the data (page 10, lines 3-21 of the specification, emphasis added).

The specification further states:

The selection of **a character outside the normal data and non-data character space** may not limit the error detection or reporting capabilities of the interface. When an exception is detected at the transmitter and the selected invalid transmission character is sent, the local transmitter generally has knowledge that an exception was detected. When **the communications channel receiver detects the presence of the invalid character in the encoded character space (e.g., an invalid transmission character)** the receipt of the invalid character may be communicated back to the source to assist in exception handling (page 19, lines 6-15 of the specification, emphasis added).

A person of ordinary skill in the field of the invention would

recognize **an invalid character that is outside the set of all valid**

data and valid special characters as supporting the recitation in claim 15 of "said predetermined character is orthogonal to an encoded data and special character set." Furthermore, there is no requirement that the words used in the claims must match those used in the specification (see MPEP §2173.05(e)).

Therefore, because one of ordinary skill in the field of the invention would recognize the recited claim language "said predetermined character is orthogonal to an encoded data and special character set" as being supported by the specification, the Office Action fails to meet the Office's burden to factually support a *prima facie* conclusion of non-enablement. As such, the presently pending claims 15 are 17-20 are fully patentable under 35 U.S.C. §112, first paragraph, and the rejection should be withdrawn.

CLAIM REJECTIONS UNDER 35 U.S.C. §103

The rejection of claims 1-5, 7-9, 14, 15, 17 and 19-22 under 35 U.S.C. §103 as being unpatentable over Brewer et al. (U.S. Patent No. 6,226,269; hereinafter Brewer) in view of Tarrab et al. (U.S. Patent No. 5,195,093; hereinafter Tarrab) is respectfully traversed with respect to claims 15 and 17-20 and has been obviated by appropriate amendment with respect to claims 1-5, 7-9, 14, 21 and 22. As such, the rejection should be withdrawn.

With respect to claims 15 and 17-20, Applicants' representative respectfully objects to the discarding of the claim limitation "predetermined character is orthogonal to an encoded

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data and special character set" as being improper under the Patent Office's procedures as expressed in MPEP §2143.03. Specifically, claims are to be examined as a whole regardless of whether the Examiner feels a particular claim limitation is indefinite or not supported in the original specification. In particular, MPEP §2143.03 states that "INDEFINITE LIMITATIONS **MUST** BE CONSIDERED" and "LIMITATIONS WHICH DO NOT FIND SUPPORT IN THE ORIGINAL SPECIFICATION **MUST** BE CONSIDERED" (MPEP §2143.03, emphasis added). Thus, the Examiner's decision to discard the limitation "predetermined character is orthogonal to an encoded data and special character set" is not proper. Therefore, the Office Action fails to meet the Office's burden of factually establishing a *prima facie* case of obviousness by factually establishing that ALL CLAIM LIMITATIONS ARE TAUGHT OR SUGGESTED BY THE PRIOR ART (MPEP §2143.03). As such, the rejection is not proper and should be withdrawn.

Furthermore, since the Office Action admits that limitations of the claims 15 and 17-20 have been ignored, the Office Action is not complete as to all matters as required by 37 C.F.R. 1.104 and, therefore, a subsequent Office Action, if issued, should not be made final.

With respect to the claims 1-4, 7-9, 14, 21 and 22, Brewer and Tarrab do not teach or suggest each and every element of the presently claimed invention. Brewer is directed to elimination of invalid data in loop network (Title of Brewer). The error

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detection device disclosed in Brewer detects invalid data and invalid control signals where primitives received from an upstream node in the loop and substitutes buffer data or valid primitives (Abstract of Brewer). Tarrab is directed to a method and apparatus for ensuring CRC error generation by a data communication station experiencing transmitter exceptions (Title of Tarrab).

In contrast to the cited references, the presently claimed invention (claim 1) provides a second circuit configured to replace one or more characters of a first data stream with **a predetermined invalid transmission character**. Claims 14, 21 and 22 recite similar limitations. Neither Brewer nor Tarrab teach or suggest replacing one or more characters of a first data stream with **a predetermined invalid transmission character**, as presently claimed. Therefore, Brewer and Tarrab do not teach or suggest each and every element of the presently claimed invention. As such, the presently claimed invention is fully patentable over the cited references and the rejection should be withdrawn.

Specifically, Brewer teaches inserting either (i) an end-of-frame abort (EOFA) ordered set (column 5, lines 27-35 of Brewer) or (ii) a fill word that is preferably "a known good word to be substituted in place of invalid words" (column 5, lines 47-49 of Brewer). Since Brewer teaches inserting a valid word defined as part of the fibre channel protocol (i.e., EOFA) or "a known **good word** to be substituted **in place of invalid words**," it follows that Brewer does not teach or suggest replacing one or more characters

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of a first data stream with **a predetermined invalid transmission character**, as presently claimed. Furthermore, Brewer's title clearly states that Brewer is directed to "**elimination of invalid data** in [a] loop network." Therefore, Brewer does not teach or suggest each and every element of the presently claimed invention.

Tarrab does not cure the deficiencies of Brewer. Specifically, Tarrab states:

> When the exception occurs at time t2a, the station must act in such a way to ensure that an incorrect CRC2 is transmitted, so that the receiving station will detect the error in the frame. If the station does not ensure an incorrect CRC2, then a randomly-generated CRC2 may occasionally indicate correct data to the receiving station. If the exception is occasionally not detected by the receiving station, a reliability problem results. A known method to ensure that a CRC2 error is detected in the receiving station is to **transmit a correct intermediate CRC2 204 for the data received correctly before the exception. Thereafter, until the end of the information field, a predetermined character known as a "CAN" character having a value of 18 hexadecimal is transmitted.** In frame 200, six CAN characters 205-210 are illustrated. As long as the number of bytes remaining to be transmitted is less than 32767 (2.sup.15 -1) bits, an erroneous CRC is guaranteed. In the DDCMP protocol, this requirement is always met because the header length is six bytes, and information field is limited to 16,383 (2.sup.14 -1) bits (column 5, lines 3-23 of Tarrab, emphasis added).

Tarrab teaches transmitting a correct CRC2 204 followed by CAN characters. Tarrab is silent regarding either the correct CRC2 204 or the CAN character being invalid transmission characters, as presently claimed. Since Tarrab is silent regarding either the

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correct CRC2 204 or the CAN character being invalid transmission characters, it follows that Tarrab does not teach or suggest replacing one or more characters of a first data stream with **a predetermined invalid transmission character**, as presently claimed. Therefore, Brewer and Tarrab, alone or in combination, do not teach or suggest each and every element of the presently claimed invention. As such, the present claimed invention is fully patentable over the cited references and the rejection should be withdrawn.

Claims 2-4, 7-9, 17-20 depend, directly or indirectly, from either claim 1, claim 15 or claim 22 which are believed to be allowable. As such, the present claimed invention is fully patentable over the cited references and the rejection should be withdrawn.

Accordingly, the present application is in condition for allowance. Early and favorable action by the Examiner is respectfully solicited.
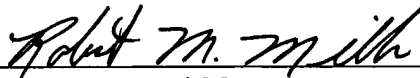
The Examiner is respectfully invited to call the Applicants' representative should it be deemed beneficial to further advance prosecution of the application.

If any additional fees are due, please charge our office
Account No. 50-0541.

Respectfully submitted,

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